



Zach Friend
Santa Cruz Police Department Crime Analyst

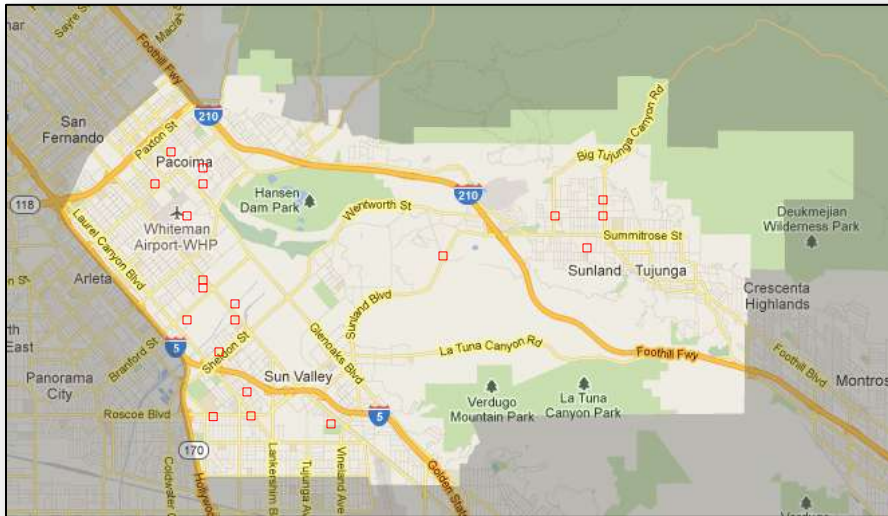
predictive policing is ...

- software technology that predicts the time and place of future crimes
- high level mathematics combined with experienced crime analysts and veteran police using their own knowledge and experience
- more than “rear view mirror” policing that simply maps past crime

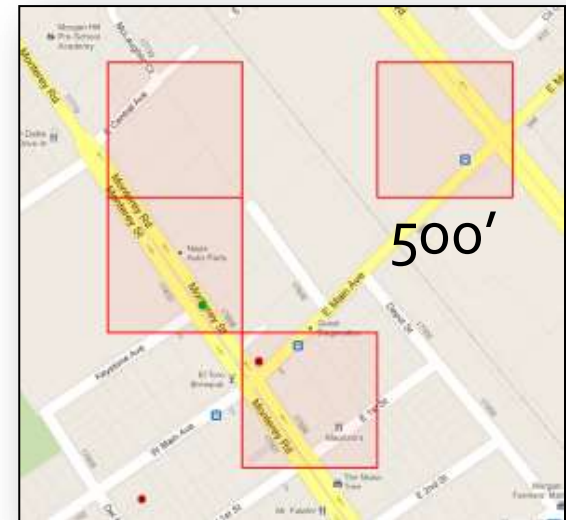


deployment to officers in the field

- lists or maps of predictions in 500' x 500' boxes
- distributed at start of shift or on-demand
- 'get in the box' to disrupt crime during patrols



LAPD Deployment



Santa Cruz PD Deployment

predictive policing in Santa Cruz, CA



B4 THURSDAY, JUNE 21, 2012

SANTA CRUZ

Pair arrested with burglary tools

according
Hernan
in jail Wed

A man and a woman were arrested Wednesday morning after police found them snooping around parked cars.

About 12:50 a.m., an officer in a patrol car went to Maple and Washington streets on a predictive policing check, said Santa Cruz police spokesman Zach Friend.

The officer spotted a man and a woman in an apartment complex parking lot.

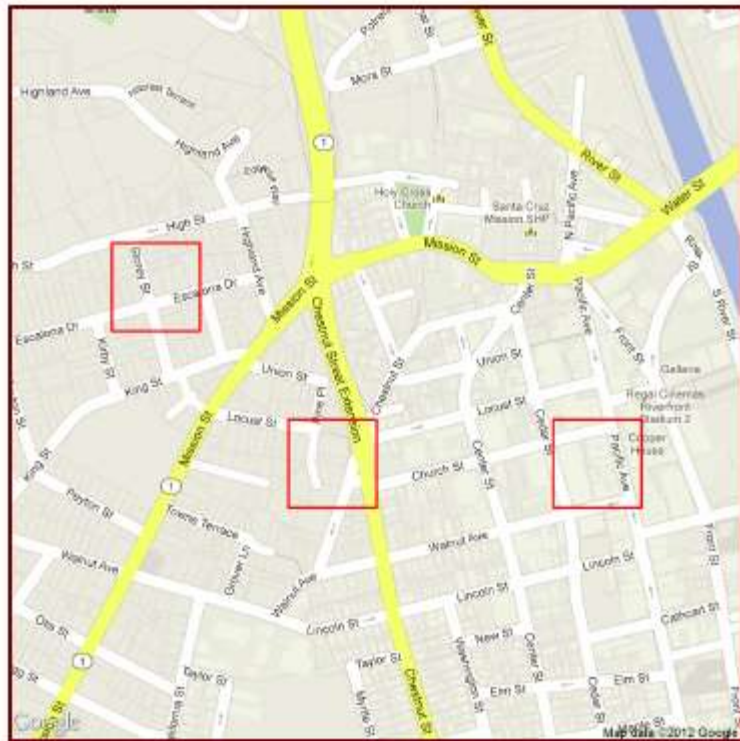
WATSON

Teens in vand

Two 15-
14-year-old
Monday at
\$10,000 in
bowling al

About 6
mer Cár
Auto Can

predictive policing in Santa Cruz, CA



-19%



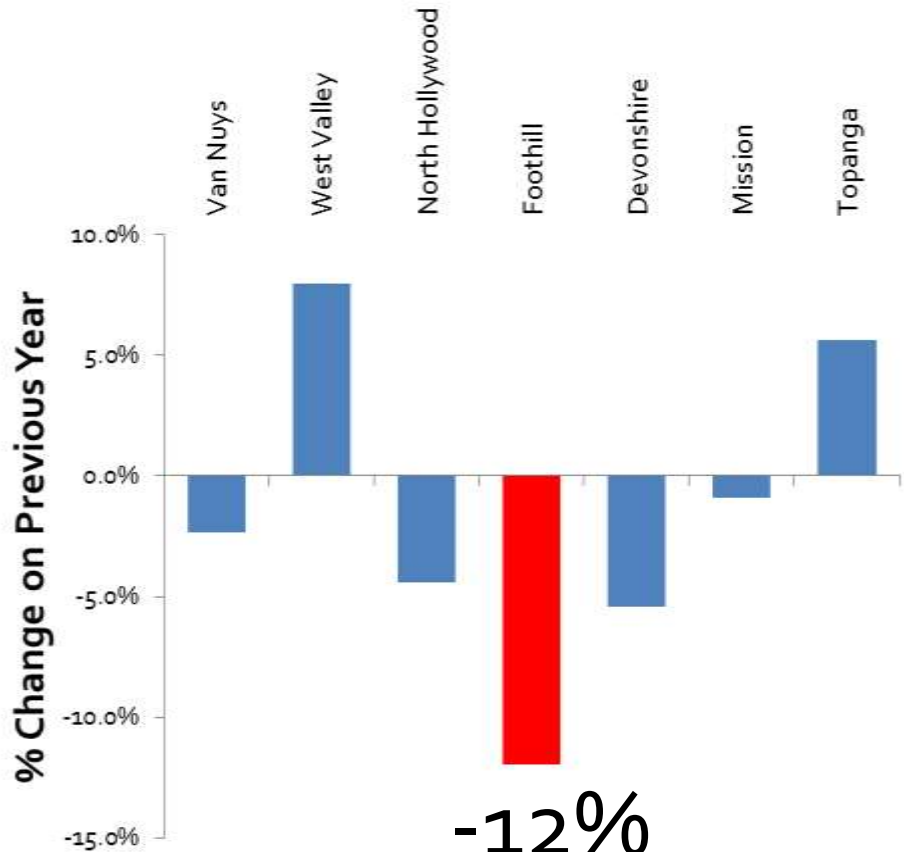
**Santa Cruz burglaries
1st half 2011 vs. 1st half 2012**

predictive policing in Los Angeles



130 sq miles & 1.3 million people

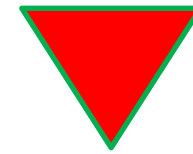
how do we know it worked in L.A.?



**serious property crime
all L.A. divisions**

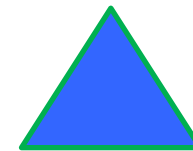
Nov '11 to May '12

-12%



L.A. Foothill Division

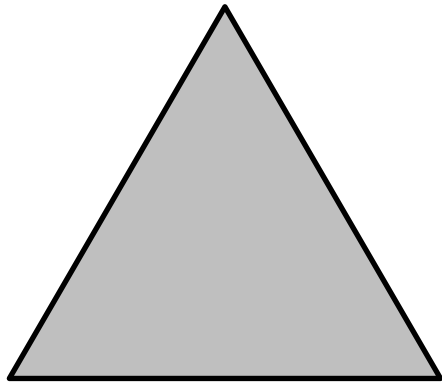
+0.4%



Rest of L.A.

the science

repeat victimization



near-repeats

local search

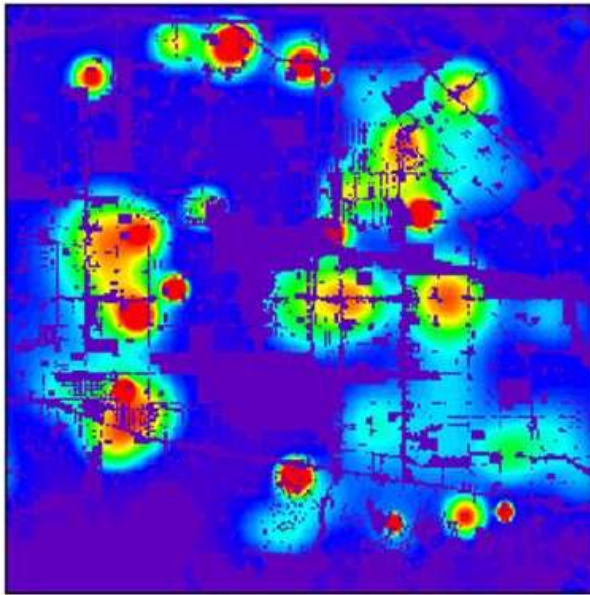


$$\frac{\partial B}{\partial t} = \frac{\eta D}{4} \nabla^2 B - \omega B + \theta \omega \delta$$

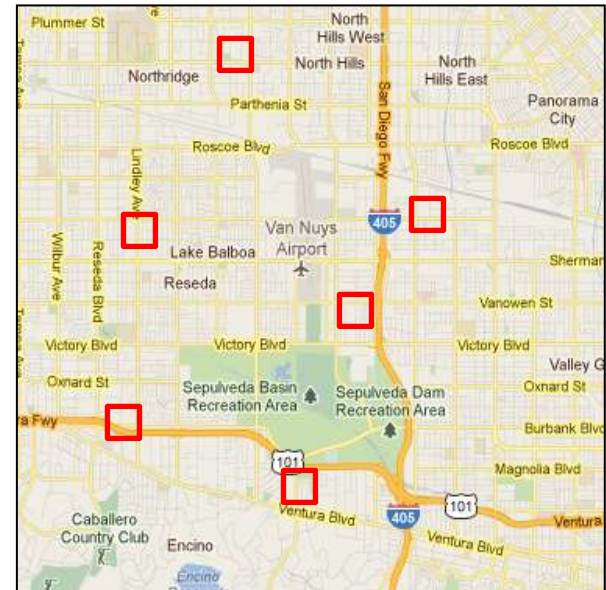
offender behavior

mathematical model

making predictive policing practical



tactical ambiguity

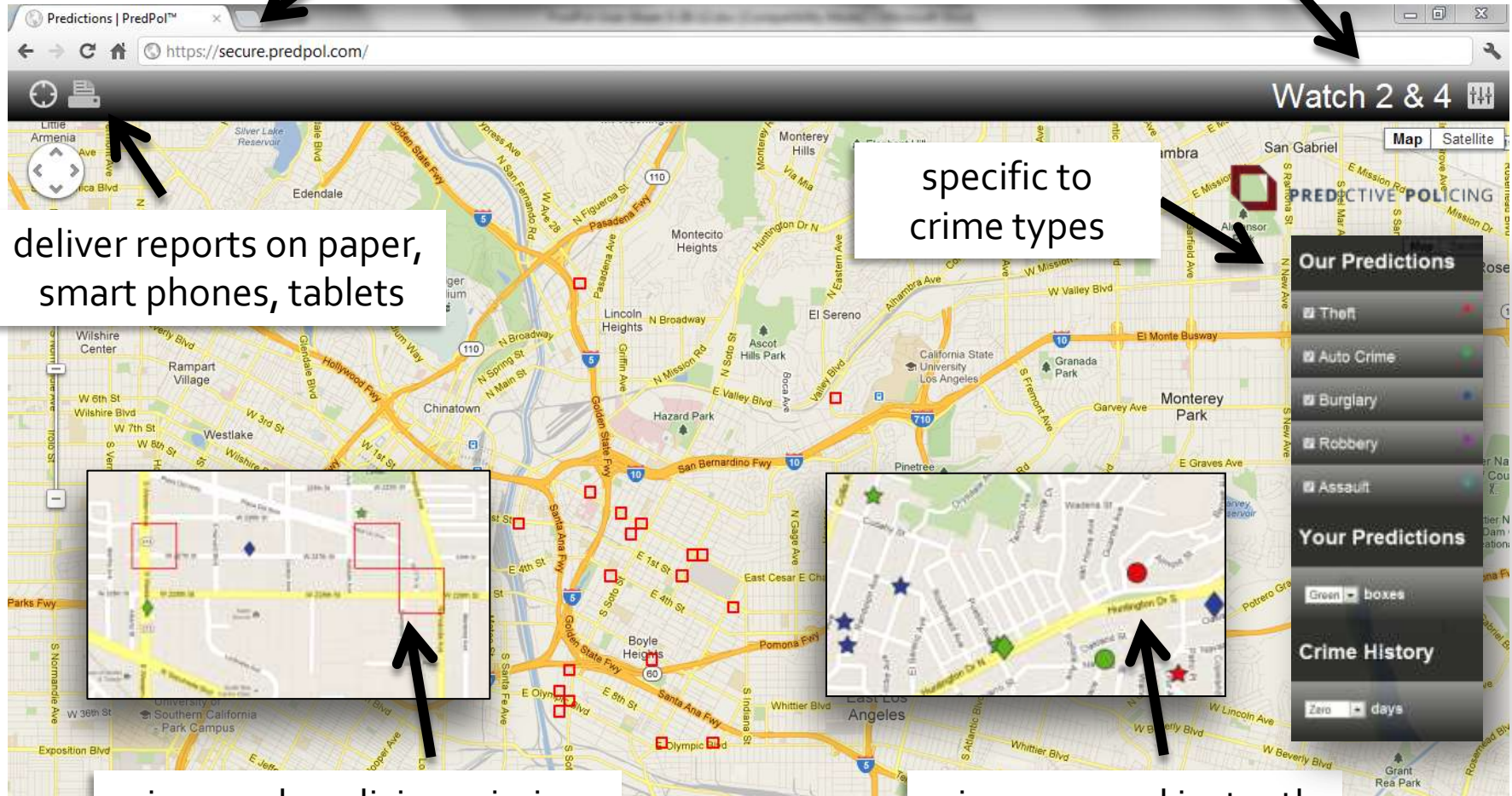


tactical clarity

day-to-day use

<https://secure....>

specific to shifts



deliver reports on paper,
smart phones, tablets

specific to
crime types

micro-scale policing missions

crime mapped instantly

'get in the box'

problem-oriented

environmental design

community policing



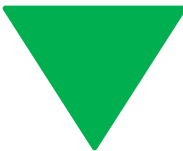
micro place-based

intelligence-led

broken-windows

PredPol savings

-12%



\$4 mil

Heaton, Paul. 2010. Hidden in Plain Sight: What Costs-of-Crime Research Can Tell Us About Investing in Police: RAND.



PredPol

- **is NOT:**
 - a replacement for knowledge, skills & experience
 - profiling of individuals
 - probable cause
 - new hardware or new hires
- **IS:**
 - assigning probabilities of crime in space and time
 - focal points for effective use of police resources
 - use of existing crime data